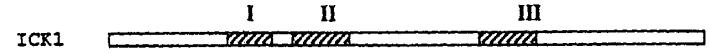
A



B

```
ATCTCTCTCTCTCACAGAGATTGTAACTTCACGCACACGTAACCTAAATCGAAGATGGTG 60
                                                          M  V 2

AGAAAATATAGAAAAGCTAAAGGAATTGTAGAAGCTGGAGTTTCGTCAACGTATATGCAG 120
 R  K  Y  R  K  A  G  I  V  E  A  G  V  S  S  T  Y  M  Q  22

CTACGGAGCCGGAGAATTGTTTATGTTAGATCGGAAAAATCAAGCTCTGTCTCCGTCGTC 180
 L  R  S  R  R  I  V  Y  V  R  S  E  K  S  S  S  V  S  V  V  42

GGTGATAATGGAGTTTCGTCGTCTTGTAGTGGAAGCAATGAATATAAGAAGAAAGAATTA 240
 G  D  N  G  V  S  S  S  C  S  G  S  N  E  Y  K  K  K  E  L  62
          VI                                              VII
ATACATCTGGAGGAGGAAGATAAAGATGGTGACACTGAAACGTCGACGTATCGACGGGGT 300
 I  H  L  E  E  E  D  K  D  G  D  T  E  T  S  T  Y  R  R  G  82

ACGAAGAGGAAGCTTTTTGAAAATCTGAGAGAGGAGGAGAAAGAAGAATTAAGTAAATCC 360
 T  K  R  K  L  F  E  N  L  R  E  E  E  K  E  E  L  S  K  S  102

ATGGAGAATTTATTCATCGGAATTTGAATCGGCGGTTAAAGAATCGTTAGATTGTTGTTGT 420
 M  E  N  Y  S  S  E  F  E  S  A  V  K  E  S  L  D  C  C  C  122

AGCGGGAGGAAAACGATGGAGGAGACGGTGACGGCGGAGGAGGAGGAGAAGGCGAAATTG 480
 S  G  R  K  T  M  E  E  T  V  T  A  E  E  E  E  K  A  K  L  142

ATGACGGAGATGCCAACGGAATCGGAAATTGAAGATTTTTTTGTGGAAGCTGAGAAACAA 540
 M  T  E  M  P  T  E  S  E  I  E  D  F  F  V  E  A  E  K  Q  162
                      VIII
CTCAAAGAAAAATTCAAGAAGAAGTACAATTTCGATTTCGAGAAGGAGAAGCCATTAGAA 600
 L  K  E  K  F  K  K  K  Y  N  F  D  F  E  K  E  K  P  L  E  182

GGACGTTACGAATGGGTAAAGTTAGAGTGAAGAAGAAGAAGAAGTTTATGGTTTTTTTTT 660
 G  R  Y  E  W  V  K  L  E  .                                  191

TAACTTTTTAGATTTTAATATTTCAGGGAATAAGTTAATTTTATTTTGTTGATTTGGAAA 720

TATAAGATTTGTAGGAGGAATGTTTTTAGAAGTACGAAATTGCACAGAAAAAGAAGAAAG 780

CTTTTTAACAGATTTTAGAGCCCAGAAAAGTCGTGTCTTTTAGCTCTACTTTTACCTCTT 840

CTTCGAATCTTGTGTATCTTTTAGCATATTCTTTAGTACATTTTTATGTTTTTGGTGACT 900

GATA*                                                          905
```

Characterization of cDNA (Wang et al., 1997) and genomic sequences of *ICK1*.
(**A**). Genomic organization ICK1. Open bars represent exons and filled bars, introns.
(**B**). Features of cDNA sequence and deduced amino acid sequence.

Figure 1

(8)

61 ACGTATATGCAGCTACGGAGCCGGAGAATTGTTTATGTTAGATCGGAAAAATCAAGCTCT Ick1.seq
3 ACGTATATGCAGCTACGGAGCCGGAGAATTGTTTATGTTAGATCGGAAAAATCAAGCTCT ICK1b.seq
6 [redacted]GA[redacted]TT[redacted]TTT[redacted]TAG[redacted] ICK1c.seq

121 GTCTCCGTCGTCGGTGATAATGGAGTTTCGTCGTCTTGTAGTGGAAGCAATGAATATAAG Ick1.seq
63 GTCTCCGTCGTCGGTGATAATGGAG[redacted] ICK1b.seq
18 [redacted] ICK1c.seq

181 AAGAAAGAATTAATACATCTGGAGGAGGAAGATAAAGATGGTGACACTGAAACGTCGACG Ick1.seq
88 [redacted] ICK1b.seq
18 [redacted] ICK1c.seq

241 TATCGACGGGGTACGAAGAGGAAGCTTTTTGAAAATCTGAGAGAGGAGGAGAAAGAAGAA Ick1.seq
88 [redacted] ICK1b.seq
18 [redacted]GGGTACGAAGAGGAAGCTTTTTGAAAATCTGAGAGAGGAGGAGAAAGAAGAA ICK1c.seq

301 TTAAGTAAATCCATGGAGAATTATTCATCGGAATTTGAATCGGCGGTTAAAGAATCGTTA Ick1.seq
88 [redacted]AATTATTCATCGGAATTTGAATCGGCGGTTAAAGAATCGTTA ICK1b.seq
70 TTAAGTAAATCCATGGAGAATTATTCATCGGAATTTGAATCGGCGGTTAAAGAATCGTTA ICK1c.seq

361 GATTGTTGTTGTAGCGGGAGGAAAACGATGGAGGAGACGGTGACGGCGGAGGAGGAGGAG Ick1.seq
130 GATTGTTGTTGTAGCGGGAGGAAAACGATGGAGGAGACGGTGACGGCGGAGGAGGAGGAG ICK1b.seq
130 GATTGTTGTTGTAGCGGGAGGAAAACGATGGAGGAG[redacted]GAGGAG ICK1c.seq

421 AAGGCGAAATTGATGACGGAGATGCCAACGGAATCGGAAATTGAAGATTTTTTTGTGGAA Ick1.seq
190 AAGGCGAAATTGATGACGGAGATGCCAACGGAATCGGAAATTGAAGATTTTTTTGTGGAA ICK1b.seq
172 AAGGCGAAATTGATGACGGAGATGCCAACGGAATCGGAAATTGAAGATTTTTTTGTGGAA ICK1c.seq

481 GCTGAGAAACAACTCAAAGAAAAAATTCAAGAAGAAGTACAATTTCGATTTCGAGAAGGAG Ick1.seq
250 GCTGAGAAACAACTCAAAGAAAAAATTCAAGAAGAAGTACAATTTCGATTTCGAGAAGGAG ICK1b.seq
232 GCTGAGAAACAACTCAAAGAAAAAATTCAAGAAGAAGTACAATTTCGATTTCGAGAAGGAG ICK1c.seq

541 AAGCCATTAGAAGGACGTTACGAATGGGTAAAGTTAGAGTGAAGAAGAAGAAGAAGTTTA Ick1.seq
310 AAGCCATTAGAAGGACGTTACGAATGGGTAAAGTTAGAGTGAAGAAGAAGAAGAAGTTTA ICK1b.seq
292 AAGCCATTAGAAGGACGTTACGAATGGGTAAAGTTAGAGTGAAGAAGAAGAAGAAGTTTA ICK1c.seq

601 TGGTTTTTTTTTTAACTTTTTAGATTTTAATATTTCAGGGAATAAGTTAATTTTATTTTG Ick1.seq
370 TGGTTTTTTTTTTAACTTTTTAGATTTTAATATTTCAGGGAATAAGTTAATTTTATTTTG ICK1b.seq
352 TGGTTTTTTTTTTAACTTTTTAGATTTT ICK1c.seq

661 TTGATTTGGAAATATAAGATTTGTAGGAGGAATGTTTTTAGAAGTACGAAATTGCACAGA Ick1.seq
430 TTGATTTGGAAATATA ICK1b.seq
379 ICK1c.seq

Alignment of *ICK1* cDNA sequence with *ICK1b* and *ICK1c* showing the differences

Figure 2

GTGGAATCTAGGATAATTCTGTCTCCGTGTGTACAGGCGACGAATCGCGGTGGAATTGTG
GCGAGAAATTCAGCAGGAGCGTCGGAGACGAGTGTTGTTATAGTACGACGGCGAGATTCT
CCTCCGGTTGAAGAACAGTGTCAAATCGAAGAAGAAGATTCGTCGGTTTCGTGTTGTTCT
ACATCGGAAGAGAAATCGAAACGGAGAATCGAATTTGTAGATCTTGAGGAAAATAACGGT
GACGATCGTGAAACAGAAACGTCGTGGATTTACGATGATTTGAATAAGAGTGAGGAATCG
ATGAACATGGATTCTTCTTCGGTGGCTGTTGAAGATGTAGAGTCTCGCCGCAGGTTAAGG
AAGAGTCTCCATGAGACGGTGAAGGAAGCTGAGTTAGAAGACTTTTTTCAGGTGGCGGAG
AAAGATCTTCGGAATAAGTTGTTGGAATGTTCTATGAAGTATAACTTCGATTTCGAGAAA
GATGAGCCACTTGGTGGAGGAAGATACGAGTGGGTTAAATTGAATCCATGAAGAAGACGA
TGATGATAATGATGATCATTGTTTTCACCAAAGTACTTATTATTTCTCTTCTGTAATAAT
CTTTGCTTTGATTTTTCTTTTAACAAAATCCAAATGTAGATATCTTTCTCTCGAATAATC
AATAACATGTAATTCAACTTTTGTTTGTACTTCCTTGAGGTAATTAATTAGATTCGTGTT
TTTCTCGATTAATAAACTATAAGTTTATAACTAAA

cDNA sequence of *ICK2*

Figure 3

AAAAAAAAGCAGAGAGAGAGAGCACACAAAAATCCAAGAGAGAAAAAAAATGAGCGAGAGA
AAGCGAGAGCTTGCAGAAGAAGCTTCAAGCACAAGCTTCTCACCACTGAAGAAAACGAAG
CTTAATGATTCTTCTGATTCATCACCGGACTCTCATGACGTCATCGTCTTCGCGGTTTCA
TCTTCTTCCGTTGCTTCGTCGGCGGCTTTAGCGTCTGATGAATGTTCCGTTACCATCGGT
GGAGAAGAAAGTGATCAGTCCTCGAGTATCAGCTCCGGTTGTTTCACCAGTGAATCGAAA
GAAATCGCGAAGAACAGTTCGTCGTTTGGTGTAGATCTGGAGGATCATCAAATCGAAACC
GAAACCGAAACCTCAACATTCATCACCAGCAATTTCAGAAAAGAGACGAGTCCAGTGAGT
GAGGGTTTGGGAGAAACGACAACAGAAATGGAATCATCATCGGCAACGAAGAGAAAACAA
CCGGGGGTGAGGAAGACTCCAACGGCGGCGGAGATTGAGGATTTGTTCTCGGAGCTAGAG
AGTCAAGACGATAAGAAGAAGCAATTCATAGAAAAGTACAACTTCGATATTGTCAATGAC
GAACCGCTTGAAGGTCGCTACAAGTGGGATCGACTTTAAGCCATCAAAAAGCAAATACCA
TCCATGAAGAAGACAAAAGAAAAATAGGTTTTGTTTTTCGTGGTTAACATTTCCACTTGT
ACAGCTCTAGTCTATTTCTCTTTAAAAACCTATGTTACTAGTTCGTACAAAACAAAACAA
AAAACACGACCTTTATAATGAAATTTCGGATCTTGGCTACTAAA

cDNA sequence of *ICN2*

Figure 4

CTCTCTCCAGAGAAAACTATAATGAGCTTGAGAGAAATGAGCGAAACAAAACCCAAGAGA
GATTCTGAGTACGAAGGATCAAACATCAAGAGGATGAGACTCGATGATGATGATGACGTT
TTACGCTCACCGACGAGAACTCTTTCTTCTTCTTCCTCTTCTTCTCTGGCTTACTCGGTT
TCAGATTCCGGAGGTTTCTGCTCCGTCGCGTTATCTGAAGAAGAAGACGATCATCTAAGC
TCAAGCATCAGCTCTGGTTGTTCCAGCAGCGAAACTAACGAAATCGCTACTCGTCTTCCA
TTTTCAGATCTGGAGGCTCATGAAATCTCCGAAACCGAAATCTCAACGTTACTCACCAAC
AATTTCAGGAAACAGGGAATTTCATCAAGCGAGAATCTGGGAGAAACAGCAGAAATGGAC
TCGGCGACGACGGAGATGAGAGATCAGAGAAAGACGGAGAAGAAGAAGATGGAAAAA
TCACCGACGCAGGCAGAGCTTGATGACTTTTTCTCGGCGGCGGAGAGATACGAACAGAAA
CGATTCACAGAAAAGTACAACTACGACATCGTCAATGATACGCCGCTTGAAGGTCGGTAC
CAGTGGGTTAGTCTGAAACCTTAGAAGCCATGGAAGAACAAA

cDNA sequence of *ICN6*

Figure 5

ATTAAAGAGTCTGGTTCCAGGTCTCGCGTTGACTCGGTTAACTCGGCTCCTGTAGCTCAG
AGCTCTAATGAAGATGAATGTTTTGACAATTTCGTGAGTGTCCAAGTTTCTTGTGGTGAA
AACAGTCTCGGTTTTGAATCAAGACACAGCACAAGGGAGAGCACGCCTTGTAACTTTGTT
GAGGATATGGAGATCATGGTTACACCAGGGTCTAGCACGAGGTCGATGTGCAGAGCAACC
AAAGAGTACACAAGGGAACAAGATAACGTGATCCCGACCACTAGTGAAATGGAGGAGTTC
TTTGCATATGCAGAGCAGCAGCAACAGAGGCTATTCATGGAGAAGTACAACTTCGACATT
GTGAATGATATCCCCCTCAGCGGACGTTACGAATGGGTGCAAGTCAAACCATGAAGTTCA
AAAGGAAACAGCTCCAAAAGACATGGTGTGAAGTTAGAGAATTGTGATGGAGTTTAACAG
AACTAACCAAACATCAGAAATCGTGTTAATCCTTAAGTTAATAATGTGGGTTA

cDNA sequence of *ICN7*

SEQ ID NO. 15: The nucleotide sequence of *Chenopodium rubrum CDKI1* (GenBank AJ002173)

gcacgagcgaaattgcggtggtaggagttaaaaccagagctcgagactgccctagctatggcggcagctgctactccaac
ttcgtctccggcgaagaagatcaagaaggtttcgaagtcgtcgtataatattcctcaactaagaagtcgtcgaaagaatt
tgtcggcgccggagaatttcgccgaattagaaacgacgccgttggaagttgcggcggttgttgaggaggaagaggttgcg
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gagttctagcgagccagaagtagttaaggatgatgatggtttgggaaatcgtacagcagatccagaggttgagagtggtg
aggcgtcgtcaaagcaaaaggagagccatagaacagaagcgagagaagctacaaaattagacgaccaggattatccggcg
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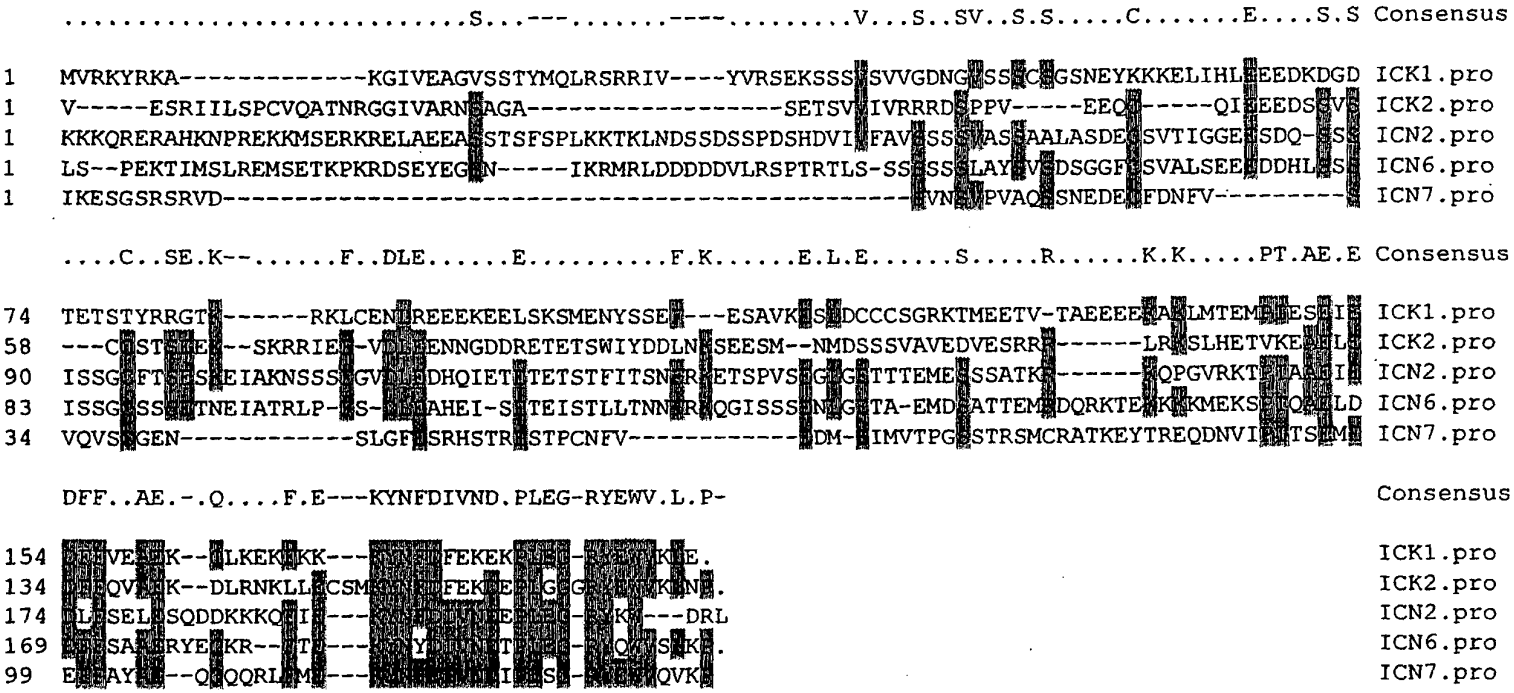
gaaacgcttcagcgaaaagtacaatttcgacatagttaaggacgtgccactgaaaggtcgttatgattgggttccaataa
atccatgaataaaacccactggtgatagtgatgatgatgaatgactgaattcttccacaattacgccaaaattagccact
gaaattgcaaagtaaatctttaattttagccttttctttctttttagcagaagttgatctattctcacaccgaaaaaaaa
aaaa

SEQ ID NO. 16: The amino acid sequence of *Chenopodium rubrum* CDKI1
MAAAATPTSS PAKKIKKVSK SSYNIPQLRS RRKNLSAPEN FAELETTPLE
VAAVVEEEEVANCSSSEVIT TARSDFPPSC CSSNYDQLSS SEPEVVKDDD
GLGNRTADPE VESGEASSKQ KESHRTEARE ATKLDDQDYP ATKSTVQIKM
PSDSEIEEFF AVAEKDLQKR FSEKYNFDIV KDVPLKGRYD WVPINP

Figure 6



Consensus 'Consensus #1': When 60% (3) match the residue of the Consensus show the residue of the Consensus, otherwise show '.'.

Decoration 'Decoration #1': Shade (with black at 40% fill) residues that match the consensus named 'Consensus #1' exactly.

Alignment of deduced amino acid sequences of *ICK1*, *ICK2*, *ICN2*, *ICN6* and *ICN7*

Figure 7

Bait	ICK1 (Numbers indicate the amino acid positions)	Filter assay	Activity
cdc2a	/		0.0
/	(3-191)		0.0
cdc2a	(3-191)		12.4
cdc2a	(73-191)		40.6
cdc2a	(109-191)		42.6
cdc2a	(154-191)		10.7
cdc2a	(3-175)		0.3
cdc2a	(3-162)		0.3
cdc2a	(3-152)		0.0
cyclin δ3	/		0.8
cyclin δ3	(3-191)		100.0
cyclin δ3	(73-191)		397.3
cyclin δ3	(109-191)		480.7
cyclin δ3	(154-191)		7.1
cyclin δ3	(3-175)		19.9
cyclin δ3	(3-162)		2.5
cyclin δ3	(3-152)		2.2
ATMPK2	(3-191)		0.0

Figure 8